Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3021719 - KANION PVC Pipe Bracket 90 BN
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

Kanion gutters mean original design, elegance and aesthetics. They are designed to drain 100% of rainwater. It is safe to say that they are intended for the most demanding users.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.85E-1	2.62E-3	1.45E-4	1.88E-1	1.84E-3	1.07E-1	5.98E-4	-9.90E-2	1.99E-1
GWP-f	kg CO2 eq	2.17E-1	2.62E-3	1.46E-4	2.20E-1	1.84E-3	7.09E-2	5.97E-4	-1.06E-1	1.87E-1
GWP-b	kg CO2 eq	-3.18E-2	1.59E-6	-1.54E-6	-3.18E-2	1.12E-6	3.65E-2	7.31E-7	6.87E-3	1.15E-2
GWP-luluc	kg CO2 eq	2.19E-4	9.26E-7	1.49E-7	2.20E-4	6.51E-7	2.31E-5	1.63E-8	-1.13E-4	1.31E-4
ODP	kg CFC11 eq	8.01E-8	6.03E-10	8.26E-12	8.08E-8	4.24E-10	6.34E-9	2.18E-11	-4.20E-8	4.55E-8
AP	mol H+ eq	1.07E-3	1.49E-5	1.47E-6	1.09E-3	1.05E-5	1.15E-4	5.35E-7	-3.99E-4	8.14E-4
EP-fw	kg P eq	9.31E-6	2.15E-8	8.24E-9	9.34E-6	1.51E-8	7.75E-7	7.25E-10	-4.03E-6	6.10E-6
EP-m	kg N eq	1.89E-4	5.33E-6	1.55E-7	1.95E-4	3.75E-6	2.90E-5	3.22E-7	-7.56E-5	1.52E-4
EP-T	mol N eq	2.08E-3	5.87E-5	1.85E-6	2.14E-3	4.13E-5	3.20E-4	2.13E-6	-8.27E-4	1.68E-3
POCP	kg NMVOC eq	7.05E-4	1.68E-5	6.28E-7	7.23E-4	1.18E-5	9.52E-5	7.34E-7	-3.00E-4	5.30E-4
ADP-mm	kg Sb eq	5.40E-5	6.77E-8	1.97E-8	5.41E-5	4.76E-8	4.47E-7	5.45E-10	-1.75E-6	5.29E-5
ADP-f	MJ	4.84E+0	4.01E-2	1.36E-3	4.88E+0	2.82E-2	3.02E-1	1.60E-3	-2.30E+0	2.91E+0
WDP	m3 depriv.	2.55E-1	1.23E-4	5.22E-5	2.56E-1	8.66E-5	1.14E-2	1.39E-5	-1.27E-1	1.40E-1
PM	disease inc.	9.47E-9	2.36E-10	9.08E-12	9.71E-9	1.66E-10	1.43E-9	1.10E-11	-3.63E-9	7.69E-9
IR	kBq U-235 eq	1.02E-2	1.75E-4	1.02E-6	1.04E-2	1.23E-4	1.07E-3	7.29E-6	-4.27E-3	7.34E-3
ETP-fw	CTUe	5.51E+0	3.26E-2	1.21E-2	5.56E+0	2.29E-2	2.21E+0	2.41E-2	-2.04E+0	5.77E+0
HTP-c	CTUh	6.31E-10	1.16E-12	6.17E-13	6.32E-10	8.16E-13	3.78E-11	4.66E-14	-5.96E-11	6.11E-10
HTP-nc	CTUh	5.55E-9	3.89E-11	1.57E-11	5.61E-9	2.73E-11	8.15E-10	4.67E-12	-2.78E-10	6.18E-9
SQP	Pt	3.85E+0	3.43E-2	2.24E-3	3.88E+0	2.41E-2	1.92E-1	4.08E-3	-3.87E+0	2.30E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.09E+0	5.76E-4	2.40E-2	1.12E+0	4.05E-4	2.13E-2	5.78E-5	-6.71E-1	4.69E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.09E+0	5.76E-4	2.40E-2	1.12E+0	4.05E-4	2.13E-2	5.78E-5	-6.71E-1	4.69E-1
PENRE	MJ	5.19E+0	4.26E-2	1.44E-3	5.23E+0	3.00E-2	3.21E-1	1.70E-3	-2.48E+0	3.10E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.19E+0	4.26E-2	1.44E-3	5.23E+0	3.00E-2	3.21E-1	1.70E-3	-2.48E+0	3.10E+0
PET	MJ	6.28E+0	4.32E-2	2.55E-2	6.35E+0	3.04E-2	3.42E-1	1.75E-3	-3.16E+0	3.57E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	3.30E-3	4.54E-6	1.46E-6	3.31E-3	3.19E-6	3.16E-4	1.94E-6	-1.54E-3	2.09E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.04E-5	1.03E-7	2.73E-13	1.05E-5	7.22E-8	5.10E-7	1.98E-9	-2.96E-6	8.09E-6
NHWD	kg	5.34E-2	2.49E-3	1.05E-6	5.59E-2	1.75E-3	1.21E-2	6.99E-3	-8.72E-3	6.80E-2
RWD	kg	9.21E-6	2.73E-7	1.10E-13	9.48E-6	1.92E-7	1.18E-6	1.03E-8	-3.95E-6	6.91E-6
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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